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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/657,380	09/08/2003	Shinichi Anami	M894.312-0010	9396
164	7590	06/27/2005	EXAMINER	
KINNEY & LANGE, P.A. THE KINNEY & LANGE BUILDING 312 SOUTH THIRD STREET MINNEAPOLIS, MN 55415-1002			RIELLEY, ELIZABETH A	
			ART UNIT	PAPER NUMBER
			2879	

DATE MAILED: 06/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

H.A

**Office Action Summary**

Application No.

10/657,380

Applicant(s)

ANAMI ET AL.

Examiner

Elizabeth A. Rielley

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
 Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM  
 THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 31 August 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 September 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>12/22/03</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Response to Amendment*

1. Amendment filed 31 August 2004 has been entered and considered by the Examiner. Currently, claims 1-16 are pending in the instant application.

### *Drawings*

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: L<sub>e</sub> and D. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### *Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:  
  
(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be

patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Keijser et al (US 6300729) in view of Rothwell et al (US 6130511).
5. In regard to claims 1, 2, and 7, Keijser et al ('729) disclose an arc discharge metal halide lamp (figure 2) for use in selected lighting fixtures (figures 1 and 2), said lamp comprising: a discharge chamber (11) having visible light permeable walls of a selected shape bounding a discharge region through which walls a pair of electrodes (4,5) are supported in said discharge region spaced apart from one another by a distance  $L_e$  (EA; column 3 line 6 to column 4 line 3) with said walls about said discharge region having an average diameter along  $L_e$  equal to  $D$  (Di) so as to satisfy  $4 < L_e / D \leq 5$  (claim 1); and ionizable materials provided in said discharge region of said discharge chamber comprising a noble gas (column 4 lines 4-13), a sodium halide and mercury (column 3 lines 6-12). Keijser et al ('729) are silent regarding the limitation of providing the ionizable materials in an amount sufficiently small to result in a voltage drop between said electrodes during lamp operation that is less than 110 V rms at a selected value of electrical power dissipation in said lamp. Rothwell et al ('511) disclose a discharge lamp that provides the ionizable materials in an amount sufficiently small to result in a voltage drop between said electrodes during lamp operation that is less than 110 V rms at a selected value of electrical power dissipation in said lamp (column 4 lines 60-61; using the electrode separation of 8mm = .8cm as taught by Keijser in Table 1 prototype 1, and using the 70 V rms per centimeter of electrode separation as taught by Rothwell et al, the electrodes would then have a 56 V rms discharge drop between them), in order to improve the lamp's performance. Hence it would have been obvious at the time of the invention to one of ordinary skill in the art to combine the discharge lamp of Keijser et al with the electrode configuration and ionizable material as taught by Rothwell et al ('511). Motivation would be to improve the lamp's performance.

6. In regard to claims 3 and 11, Keijser et al ('729) disclose a discharge chamber is made of a ceramic material (column 3 lines 6-10).
7. In regard to claims 4-5 and 12-13, Keijser et al ('729) disclose selected value of electrical power dissipation divided by that surface area of said discharge chamber adjacent to said discharge region as a chamber wall loading is between 30 and 70 W/cm<sup>2</sup> and 20 and 70 W/cm<sup>2</sup> (claim 3).
8. In regard to claim 6, Keijser et al ('729) disclose ionizable materials further comprise a cerium halide (column 3 lines 6-15).
9. In regard to claims 8 and 16, Keijser et al ('729) disclose the ceramic material is polycrystalline alumina (column 1 lines 36-40).
10. In regard to claims 9, 10, and 15 Keijser et al ('729) disclose an arc discharge metal halide lamp (figure 2) for use in selected lighting fixtures (figures 1 and 2), said lamp comprising: a discharge chamber (11) having visible light permeable walls of a selected shape bounding a discharge region through which walls a pair of electrodes (4,5) are supported in said discharge region spaced apart from one another by a distance  $L_e$  (EA; column 3 line 6 to column 4 line 3) with said walls about said discharge region having an average diameter along  $L_e$  equal to  $D$  ( $D_i$ ) so as to satisfy  $L_e/D \geq 5$  (claim 1); and ionizable materials provided in said discharge region of said discharge chamber comprising a noble metal (column 4 lines 4-20), a cerium halide (column 1 lines 64-65), and mercury (column 3 lines 6-12). Keijser et al ('729) are silent regarding the limitation of providing the ionizable materials in an amount sufficiently small to result in a voltage drop between said electrodes during lamp operation that is less

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than 110 V rms at a selected value of electrical power dissipation in said lamp. Rothwell et al ('511) disclose a discharge lamp that provides the ionizable materials in an amount sufficiently small to result in a voltage drop between said electrodes during lamp operation that is less than 110 V rms at a selected value of electrical power dissipation in said lamp (column 4 lines 60-61; using the electrode separation of 8mm = .8cm as taught by Keijser in Table 1 prototype 1, and using the 70 V rms per centimeter of electrode separation as taught by Rothwell et al, the electrodes would then have a 56 V rms discharge drop between them), in order to improve the lamp's performance. Hence it would have been obvious at the time of the invention to one of ordinary skill in the art to combine the discharge lamp of Keijser et al with the electrode configuration and ionizable material as taught by Rothwell et al ('511). Motivation would be to improve the lamp's performance.

11. In regard to claim 14, Keijser et al ('729) disclose ionizable materials further comprise a sodium halide (column 3 lines 6-13).


### *Conclusion*

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth A. Rielley whose telephone number is 571-272-2117. The examiner can normally be reached on Monday - Friday 7:30 - 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar Patel can be reached on 571-272-2457. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Elizabeth Rielley

Examiner  
Art Unit 2879

msk 6/23/05  
Mariceli Santiago  
AU 2879